

**[ SYSTEM FOR IN-SITU  
GENERATION OF FLUORINE  
RADICALS AND/OR FLUORINE-  
CONTAINING INTERHALOGEN  
( $\text{XF}_n$ ) COMPOUNDS FOR USE IN  
CLEANING SEMICONDUCTOR  
PROCESSING CHAMBERS ]**

**Abstract of Disclosure**

*ABSTRACT OF THE DISCLOSURE* A system for *in-situ* generation of fluorine radicals and/or fluorine-containing interhalogen compounds  $\text{XF}_n$  (wherein X is Cl, Br, or I, and n is an odd integer). Such system comprises a fluorine source, a halogen source for supplying halogen species other than fluorine, a chamber for mixing fluorine with halogen species other than fluorine, and an energy source to supply energy to such chamber to facilitate reaction between fluorine and the halogen species other than fluorine. The chamber may be a semiconductor processing chamber, wherein the *in situ* generated fluorine radicals and/or fluorine-containing interhalogens are employed for cleaning the processing chamber.

## Figures